DOCUMENT RESUME

ED 267 329 CG 018 909

AUTHOR Frost, Dean E.
TITLE An Experimental Test of the LEADER MATCH Training Program.
PUB DATE [Aug 85]
NOTE 13p.; Paper presented at the Annual Convention of the American Psychological Association (93rd, Los Angeles, CA, August 23-27, 1985).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Fire Fighters; Leadership Styles; *Leadership Training; *Program Effectiveness; *Program Validation; Validated Programs

ABSTRACT

Fiedler's Contingency Model of Leadership Effectiveness, which asserts that leadership effectiveness is a function of leadership style and situational context, is the basis for a leadership training program called Leader Match. This study attempts to replicate previous research which has demonstrated improved performance attributable to the Leader Match program. Study participants (N=124) were male fire department officers. Thirty officers who could not attend a Leader Match training session were the control group. Others attended one of six sessions. Three of the training sessions included Leader Match; three used alternative training techniques. Subjects completed a Least Preferred Co-Worker Scale and their superiors were interviewed about their behavior. This study showed improved, but not significantly improved, performance for Leader Match trainees. The lack of replication of previous validating studies could be due to the rigorous evaluative methods used on this research, the 10-month time period between evaluations, the type of leaders examined, or poor training. (ABL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED267329

An Experimental Test of the LEADER MATCH Training Program

Dean E. Frost

Portland State University

CG018909

Dean E. Frost

Department of Psychology

Portland State University

P. O. Box 751

Portland, OR 97207

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Dean E. Frost

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

An Experimental Test of the LEADER MATCH Training Program

Abstract

A leadership development program was conducted in a sample of 124 leaders to investigate the contribution of the Contingency Model's assumptions in determining leadership effectiveness. Subjects received one of three treatments; a training program based on the Contingency Model, an alternative training program, and a no-training control group. Leaders receiving LEADER MATCH were rated as having improved their leadership performance after training by their superiors but these changes were not significant when tested by an Analysis of Covariance using pre- and post-training measures. These same trainees also showed evidence of having changed their Situational Control using job engineering methods.

An Experimental Test of the LEADER MATCH Training Program

This paper presents an empirical examination of the utility of Fiedler's (1967) Contingency Model of Leadership Effectiveness for training leaders. Fiedler's model, which asserts that leadership effectiveness is a function of leadership style and the situational context, constitutes the basis of a leadership training program entitled LEADER MATCH (Fiedler, Chemers, and Mahar; 1976). This investigation seeks to replicate previous validation findings and establish whether the improved performance attributed to LEADER MATCH is training dependent upon trainees' use of the job change techniques described by this program.

The Contingency Model uses two factors, leadership style and situational control, to predict when leaders will be most effective. The leadership style factor is operationalized by the leader's score on the Least Preferred Co-Worker (LPC) scale which consists of 18 bipolar adjective pairs which describe the leader's esteem for his or her least preferred co-worker. Respondents rating their least preferred co-worker relatively negatively (low LPC) are considered to be task oriented. Respondents rating their least preferred co-worker relatively more positively (high LPC) are considered to be interpersonally, or relationship oriented (Rice, 1978).

The second factor of the model, Situational Control, is operationally defined by three variables. In order of their importance in determining Situational Control they are; the quality of the leader-member relations, the degree of structure in the leader's task, and the position power the leader is given by the organization. These variables are weighted and totaled to yield a Situational Control continuum which ranges from 8 to 70 (Nebeker, 1975).

Fiedler, Chemers, and Mahar (1976) define scores of less than 31 as low in control, between 31 and 50 as moderate, and scores of 51 and above as high in Situational Control.

The LEADER MATCH training program informs relationship oriented leaders that they will perform best in moderate control situations and task oriented leaders are told that they will perform best in either low or high control situations. The LEADER MATCH program further instructs the leaders to "job engineer" their own particular situations so as to achieve the best match with their leadership style. Leaders in situations in which poor leadership performance is expected are unmatched (e.g., relationship oriented leaders in high control situations) and those leaders in situations in which good leadership is expected are matched (e.g., task oriented leaders in high control situations). Those trainees who report working in an unmatched situation prior to training are instructed in the recommended job engineering methods so that they can reach a matched situation after training and consequently become more effective.

Fiedler and his associates have conducted a dozen studies to demonstrate that LEADERMATCH training is effective (Leister, Borden, and Fiedler, 1977; Coska and Bons, 1978; Fiedler and Mahar, 1979). These studies have been generally supportive of Fiedler's model and are well controlled for training evaluation studies. Even so, only three of the reported studies have included pre- and post-training performance evaluations (Fiedler and Mahar, 1979) and of these three studies none include a second, alternative training program as a comparison group. It is therefore possible that the demonstrated improvement in performance ratings for the trained leaders was due to the special treatment they received (i.e., the "Hawthorne Effect"). Although it

is unlikely, it is possible that in each of these three field experiments the raters' knowledge of who received the training influenced their ratings. Moreover, each of these three studies used military samples where policies of frequent rotation often preclude extended experience with the same work group or performance evaluator (superior).

This investigation tests the effectiveness of the LEADER MATCH program by comparing the performance of subjects trained in LEADER MATCH with the performance of subjects who received an alternative program, as well as those in a control group receiving no training. Thus it is hypothesized that only the LEADER MATCH group will demonstrate a significant positive change in performance ratings. This analysis also seeks evidence that LEADER MATCH trained leaders do in fact "job engineer" by manipulating their Situational Control. It is therefore expected that these trainees will report changing their Situational Control so that their leadership style will be matched to their own particular situation as prescribed by the training program.

Method

Data were collected from all eligible officers in an urban fire department (N=124, all males). Each of these leaders was in charge of a crew of from three to five and was responsible for supervising: Training, maintanence work, fire-code inspections, and any fire fighting action.

Officers were scheduled to attend one of six separate training sessions lasting approximately seven hours. A group of 30 officers who could not attend the training sessions because of the need to maintain basic fire protection at all times were included in the study as members of a no training control group.

Three of the six training sessions were randomly chosen as LEADER MATCH sessions. Training in these sessions consisted of explaining the basic principles of the Contingency Model, then relating these to the trainee's own scores, followed by a discussion of job engineering principles as outlined by Fiedler et al (1976). Examples of job engineering included suggestions for increasing Leader-Member Relations such as spending more informal time with subordinates, becoming more available for personal talks, and so on. A short quiz at the end of these sessions indicated that the material had been understood, the 47 trainees averaging 85% correct.

The remaining three training sessions were assigned to the alternative training condition. These sessions, while of equal length to the LEADER MATCH sessions, omitted all mention of the LPC scale and the underlying concept of leadership style. The focus of the instruction was on analyzing trainees' Situational Control and on job change techniques which would increase it. Trainees were told that their ability to exercise control over the environment would enable them to be more effective, in other words, that they should maintain high Situational Control at all times. A short quiz given to these 47 trainees indicated that they had understood this program's material (mean of 79% correct).

Subjects in all three conditions completed the Least Preferred Co-Worker scale in the form given by Fiedler et al (1976). The Situational Control subscales were completed by all officers and the scores for Leader-Member Relations, Task Structure, and Position Power were summed to form the Situational Control continuum score (Nebeker, 1975).

A behaviorally anchored performance evaluation was designed for use in rating overall leadership performance. The immediate superior of each subject

(i.e., the battalion chief) was interviewed using the critical incident technique (Flanagan, 1954) providing a wide range of behaviors described as important to performance of the company officer position. The behavioral observation scaling technique (Latham and Wesley, 1977) was used to construct a rating form and this was then pre-tested in a nearby fire department. The resulting 30 item scale was completed by each officer's superior one month prior to the start of training and again eight months after the completion of training. At both times the raters were blind as to the ratee's assigned training condition.

Pre-training performance ratings were obtained for 100 of the officers (24 subjects were either too new to their position to be evaluated or their superior was on medical leave and unavailable to the study). A second performance evaluation, a global overall ranking, was collected specifically as a validity check for the more extensive ratings used here as the dependent measure. The correlation between this global rank and the BOS rating was .52, and the coefficient alpha for the rating scale (α=.97) indicated good reliabililty.

Post-training ratings were obtained for 85 of the officers. The loss of subjects from the pre-training evaluation was due to transfers within the department to new positions. Thus, analyses were limited to those subjects who remained in the same assignment evaluated by the same rater for the period of the study.

Results

No significant differences between groups were found on the LPC score, the Situational Control score, or the pre-training performance rating. It can

be concluded then that the subjects assigned to each condition were similar prior to the training intervention.

A comparison of the mean performance scores for each of the experimental groups is shown in Table 1. Because of the unequal number of subjects in each cell the analysis of covariance is performed using a regression model (Edwards, 1979), treating the pre-training rating as a covariate. It was expected that only the LEADER MATCH group would show an improvement in their post-training ratings and this is the case (mean change of +2.35) but this result is not significant ($F(2,81)=0.527$,ns). The hypothesis for a significant difference between groups for the results of training is not supported.

INSERT TABLE 1 ABOUT HERE

A second hypothesis tests the trainees' self-reports of attempts to job engineer their situation to move into a match between their style and the situation. Of eleven initially identified as being in matched situations, nine were again so categorized on the basis of their post-training reports. Of twelve trainees who were unmatched prior to training, eight had changed their Situational Control sufficiently to be placed in the matched category after training. This evidence that matched trainees do not job engineer and those who are initially unmatched do report making changes in the suggested direction ($\chi^2 = 5.492$, $p<.05$) supports the conclusion that LEADER MATCH trainees do use the job engineering techniques as directed by the program.

This is also supported by the correlation between changes in performance ratings and reported change in Situational Control ($r=.72$, $p<.01$) for the trainees in initially unmatched situations. This indicates that those trainees who reported making changes in their Situational Control as instructed also demonstrated the greatest improvement in performance.

Discussion

The results of this study of the LEADER MATCH training program are not supportive of the conclusions reached by previous validation studies (e.g., Fiedler and Mahar, 1979); although trainees' performance improved the change was not significant. While the designers of the LEADER MATCH program must be commended for having conducted so many validation studies previously, it must be recognized that the research reported here is the first to test this program using random assignment to three experimental conditions and using the analysis of covariance to assess training effects. The fact that the results reported here are less convincing in proving LEADER MATCH's effectiveness could be attributed to the more rigorous test this experimental design represents.

There are, of course, other explanations for the differences between these data and past validation studies. The time between pre- and post-training ratings in this study was 10 months. Fiedler and Mahar (1979) report results of 12 studies but all ratings they present were obtained from one to six months after training. Clearly it is possible that the benefits of any training program may diminish over time and it is possible that 10 months may be past the upper limit for evaluating leadership training. The sample of leaders studied here is also different. These are nonmilitary leaders in relatively permanent positions (e.g., mean time in position was 32.8 months).

The instructions to job engineer may be more difficult to carry out after work and group practices are well established. This is supported by the trainees' self-reports of relatively high pre-training Situational Control ($\bar{X}$=52.6) and the strong positive correlation between amount of change in the situation and gain in performance ratings after LEADER MATCH training. The practical impact may be greatest then for leaders entering new positons after training since these leaders' situations are more open to change than that of a leader with extensive experience in a position.

Any research which fails to obtain results similar to other related studies faces the obvious criticism that the difference is due to poor research methods or, in this case, poor training methods. It should be noted then that the performance evaluators in this study: (a) were not told who had received training, and (b) were given no information about he nature of the training programs or their differences. There is therefore no reason to suspect that the difference in results were caused by rater bias. Since neither of the trained groups were themselves aware of any differences in program content their reports of Situational Control should not be biased. In fact, the significant number of LEADER MATCH trainees reporting changes in their post-training Situational Control indicates that the training program was effective and the trainees did follow its instructions eight months later.

A major conclusion of this study is that training evaluation research using pre- and post-test control group designs and careful data analysis methods (i.e., ANCOVA) may lead to very different conclusions than other less rigorous research. As usual more research is needed, especially studies using pre- and post-test control group designs to evaluate training effects.

References

Csoka, L. S. & Bons, P. M. (1978) Manipulating the situation to fit the leader's style - Two validation studies of Leader Match. Journal of Applied Psychology, 63, 295-300.

Edwards, A. L. (1979) Multiple Regression and the Analysis of Variance and Covariance. San Francisco, CA: W. H. Freeman and Co.

Fiedler, F. E. (1967) A Theory of Leadership Effectiveness. New York: McGraw-Hill.

Fiedler, F. E., Chemers, M. M., & Mahar, L. (1976) Improving Leadership Effectiveness: The Leader Match Concept. New York: John Wiley and Sons.

Fiedler, F. E. & Mahar, L. (1979) The effectiveness of contingency model training: A review of the validation of Leader Match. Personnel Psychology, 32, 45-62.

Flanagan, J. C. (1954) The critical incident technique. Psychological Bulletin, 51, 327-358.

Latham, G. P. & Wexley, K. N. (1977) Behavioral observation scales. Personnel Psychology, 30, 255-268.

Leister, A., Borden, D. & Fiedler, F. E. (1977) Validation of contingency model of leadership training: Leader Match. Academy of Management Journal, 20, 464-470.

Nebeker, D. M. (1975) Situational favorability and environmental uncertainty: An integrative study. Administrative Science Quarterly, 20, 281-294.

Rice, R. W. (1978) Psychometric properties of the least preferred co-worker scale. Academy of Management Review, 3, 106-117.

Table 1

Change in Mean Performance Ratings
from Pre-training to Post-Training
for Each Training Group

Group	N	$\bar{X}$	S.D.	Mean Change
LEADER MATCH				
Pre-Training	33	120.51	19.15	
Post-Training	33	122.86	17.30	
				+2.35
Alternative Training				
Pre-Training	27	126.24	19.25	
Post-Training	27	123.33	17.11	
				-2.91
No Training Control				
Pre-Training	25	127.63	19.09	
Post-Training	25	125.12	19.72	
				-2.51